



US005796634A

**United States Patent** [19]**Craport et al.**[11] **Patent Number:** **5,796,634**[45] **Date of Patent:** **Aug. 18, 1998**

[54] **SYSTEM AND METHOD FOR IDENTIFYING THE GEOGRAPHIC REGION OF A GEOGRAPHIC AREA WHICH CONTAINS A GEOGRAPHIC ZONE ASSOCIATED WITH A LOCATION**

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[21] Appl. No.: **831,040**

[22] Filed: **Apr. 1, 1997**

[51] Int. Cl.<sup>6</sup> ..... **G01B 7/00**

[52] U.S. Cl. .... **364/559; 455/422; 455/429; 340/988; 340/995; 345/133; 345/418; 345/435; 701/208; 701/212**

[58] **Field of Search** ..... **364/559; 345/133, 345/418, 435; 455/4.2, 429, 422; 340/988, 995; 701/208, 212; 342/357; 379/221**

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[57] **ABSTRACT**

A system and method for identifying the geographic region of a geographic area which contains a geographic zone associated with a location. To identify the geographic region which contains a geographic zone, one of the plurality of geographic regions in a geographic area is selected as a selected region. A determination is made as to whether the geographic zone is located within the selected region by determining whether the zone boundary points of the geographic zone are located within the selected region. If a predetermined percentage of the zone boundary points of the geographic zone are located within the selected region, then the geographic zone is located within the selected region and the geographic region is identified. Different preferred methods correspond to different methods for making a determination as to whether the a zone boundary point is located within the selected region. In the preferred methods, the determination is made by drawing a line of predetermined slope through the zone boundary point and through the selected region and comparing the zone boundary point to the intersection points between the line and the region boundary of the selected region. Some of the preferred methods use estimated geographic regions and an estimated geographic zone.

**22 Claims, 11 Drawing Sheets**